

Echinacea —

Celebrate Diversity



Advancements in echinacea give growers more choices in color and habit.

By Rick Schoellhorn
University of Florida



Big Sky series (Photo courtesy of ItSaul Plants)

This is one of the great moments in time when a renowned but limited perennial flower has the roof blown off of its genetic potential. The advances in echinacea breeding we will be seeing emerge on the market in the next few years are some of the most exciting changes I've seen in a long time. I'm hoping this is the beginning of not only some fantastic new hybrids but also increased awareness of some of the lesser-known species.

'Magnus' has ruled the roost for many years. It is a great seed-produced cultivar (*E. purpurea*) with strong purple-toned flowers — a vast improvement over the species. It received the Perennial Plant Association Plant of the Year award in 1998 and gave rise to an assortment of varying tones of purple, rose and cerise hybrids over the years, with some really cool novelty forms popping up in fringe markets as well.

It is through the work of Jim Ault at the Chicago Botanic Gardens and Richard Saul from ItSaul Plants that we are now looking at the release of yellow- and

orange-toned hybrids that combine striking colors with strong performance. The release of these new lines indicates that we will soon be seeing all the other shades of color between red and yellow on the market in the next few years.

ItSaul Plants. Richard Saul has been breeding echinacea for about 10 years, and the releases coming out of ItSaul's program are revolutionary. Scheduled for introduction

in early 2005 are two cultivars in the Big Sky series. Sunrise (PPAF) is a clear pale citron yellow, and Sunset (PPAF) is a strong orange. For release in late 2005 (summer or fall) is Twilight (PPAF), a rose color with a red cone. The flowers of these newer rose-toned hybrids are actually very different iridescent tones and a little hard to describe but truly beautiful! For 2006, and later, look for bi-colors, dark yellows, peach, coral and other inter-

mediate shades. Saul's releases are crosses between *Echinacea purpurea* and *E. paradoxa*, but the Big Sky series resembles *E. purpurea* with broad, deep green leaves, overlapping petals and multiple blooms. The Big Sky series comes out of tissue culture and is only available as a vegetative liner. Both Sunset and Sunrise are licensed for propagation to a variety of plug producers, but there is likely not going to be enough of this crop to go around



'Primadonna Deep Rose'. (Photo courtesy of Ernst Benary of America)

Culture Quickie: Echinacea

Fertilization. Nitrogen at 75-150 ppm is usually sufficient. Avoid high ammonium forms as they will weaken stems and elongate leaves.

Watering. Normal production irrigation is fine.

Media. All commercial peat lite media and bark peat mixtures work fine. Optimum pH is 5.5-7.0 for most cultivars. Slightly alkaline media is tolerated by many cultivars.

Temperature. Temperatures of 50-60° F night and 70-75° F day are adequate. Cooler temperatures as flowers color up will give deeper color to the blooms.

Light. High light or over 1,000 $\mu\text{mol m}^{-2} \text{s}^{-1}$, for most green-leaved cultivars; however, variegated types may need lower light levels to avoid scorching.

Propagation. Patented varieties aside, division and softwood cuttings are easy to grow, but most growers go for the uniformity of either seed or vegetative liners.

Timing. From seed to flower plan on about six months; from liner to sale it depends on the time of year, but around six weeks for quarts and eight weeks for gallons.

PGRs. For those of you more comfortable with B-Nine (5,000 ppm) or B-Nine and Cycocel tank mixes (5,000 ppm/1,500 ppm) use those, but you will need multiple applications; stop as flowers emerge so you don't reduce flower size. For growers more comfortable with paclobutrazol a 30 ppm drench or repeated 30 ppm sprays will work. Sumagic will be less than 30 ppm for sprays, but remember the rates and cultivars are all going to perform differently depending on where you are in the country, so do your own tests.

Flowering. A note about vernalization: Most suppliers state that echinacea does not require vernalization, but all will tell you 4-8 weeks at 40° F will give you a faster crop with more uniform flowering. That sure sounds like vernalization to me!

the first year — place orders early. The Big Sky series has a long shelf life as a cut and is fragrant.

The Chicago Botanic Gardens (CBG). Jim Ault with the CBG also released the first of its new hybrids in 2004. The Meadowbrite series, beginning with 'Orange Meadowbrite' (PPAF), is emerging in exclusive catalogs and select nurseries (See supplier listings on page

20). The flower is a strong orange tone with more of the leaf type of its *E. paradoxa* parents. That means the leaves are thinner and more strap-like, and flower petals are slightly separated. 'Mango Meadowbrite' (PPAF) is a yellow-toned release. Lots of colors, including the elusive rose tones, are coming in 2005 and beyond. Same story for the Chicago releases; supplies are limited, and

many suppliers are already sold out.

NOVELTY TYPES

It was amazing to discover the breadth of novelty forms of this crop available in our industry. My knowledge of potential cultivars went

from about five to more than 25 colors, including forms I had not heard of prior to researching this article. In addition to many seed-produced forms, including Ernst Benary of America's 'Primadonna Deep Rose', the truly strange vegetative forms

Figure 1. Standard echinacea cultivars. Note that there are at least another 30 cultivars on the market, but their market share is much smaller, and some may be synonyms for

Cultivar	Suppliers	Liner	Color	Height (inches)
Abendsonne	Many	Seed	Cerise pink	32-36
Alba	Many	Seed-Veg.	Creamy white	36
Big Sky Sunrise ^(PPAF)	ItSaul Plants	Veg.	Yellow	34-36
Big Sky Sunset ^(PPAF)	ItSaul Plants	Veg.	Orange	24-30
Bravado	Many	Veg.	Rose red	24-30
Bressingham Hybrids	Many	Seed	Rose red	32-36
Bright Star	Many	Seed	Rose red	26-36
Crimson Star	Many	Seed-Veg.	Crimson rose	30-36
Dwarf Star	Many	Seed	Rose	12-24
Fragrant Angel	Canning Perennials	Veg.	White	30
Kim's Knee High	Sunny Border Nurseries	Seed	Purple rose	12-18
Kim's Mophead	Sunny Border Nurseries	Seed	White	12-18
Little Giant	Canning Perennials	Veg.	Rose red	12
Magnus	Many	Seed	Rose pink	30-36
Mango Meadowbrite ^(PPAF)	Many	Veg.	Yellow	36
Orange Meadowbrite ^(PPAF)	Many	Veg.	Orange	36
Overton	Many	Seed	Rose pink	24-30
Paranoia	Plant Delights	Veg.	Yellow	12
Primadonna	Ernst Benary of America	Seed	Deep rose	32-36
Robert Bloom	Many	Seed	Purple rose	36
Ruby Star	Many	Seed	Crimson rose	30-36
The King	Many	Seed	Rose red	48-52
Vintage Wine	Many	Seed	Rose red	36
White Lustre	Many	Seed	White	36
White Swan	Many	Seed	White	36

Figure 2. Novelty echinacea cultivars.

Cultivar	Trait	Liner	Color	Height (Inches)
Ruby Giant	7-inch flowers	Veg.	Rose red	24-30
Doppelganger	Tufted petals arise from top to disc	Veg.	Purple rose	30-36
Double-Decker	Flower over flower, like a double-decker bus	Veg.	Purple rose	30-36
Prairie Frost	Variegated foliage.	Veg.	Purple rose	24-32
Razzmatazz	Anemone type disc covered in small petals	Veg.	Purple rose	30-34
Sparkler	Spotted variegation, to bright white foliage	Veg.	Pink rose	24-28

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Big Sky series (Photo courtesy of ItSaul Plants)

were also amazing. I encourage anyone who wants to learn more about these unusual forms to look for 'Doppelganger', where petals erupt from the top of the cones, giving each blossom a "mophead" and doubling the color impact of the flower. Another option to check out is 'Double-Decker', just what the name implies, with secondary flowers arising from the cone of the lowest bloom on the stalk; this hybrid looks a bit like a Leonotus with stacked flowers on each stalk. 'Razzmatazz' is what chrysanthemum producers would call an anemone form, with small petals entirely encasing the cone of the flower, so it appears double, but all inner petals are quite small. 'Prairie Frost' and 'Sparkler' are both variegated types with single flowers, but the variegation is quite different in each case.

The variegated forms of echinacea may need a little more shade to protect the leaves from scorching under high light; they are also a little less vigorous than their green-leaved counterparts.

This crop has such an interest-

For more information on varieties discussed in this article, direct your inquiries to the following companies or your favorite broker.

Ernst Benary of America
(815) 895-6705
www.benary.com

Monrovia Nursery
(888) PLANT-IT
www.monrovia.com

ItSaul Plants
(770) 458-0028
www.cone-crazy.com

**Yoder Brothers/
Greenleaf Perennials**
(800) 321-9573
www.yoder.com

Sunny Border Nurseries
(800) 732-1672
www.sunnyborder.com

Plant Delights
(919) 772-4794
www.plantdelights.com

Purdue University has a good description of native forms and species at: www.hort.purdue.edu/newcrop/ncnu02/v5-506.html

ing market history as a perennial, expanding into the medicinal use market and now adding an explosion of new colors. The future of coneflowers will never be quite the same. GPN

Rick Schoellhorn is extension specialist at the University of Florida, Gainesville, Fla. He can be reached by phone at (352) 392-1831 x364 or E-mail at rschoe@mail.ifas.ufl.edu

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